Mouse C5a / Complement 5a protein, Biotinylated

Catalog Number: 51136-MNAE-B

Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

C5

Protein Construction:

A DNA sequence encoding the mouse C5a (NP_034536.2) (Asn679-Arg755) was expressed with an initial Met. The purified protein was biotinylated in vitro.

Source: Mouse

Expression Host: E. coli

QC Testing

Purity: > 95 % as determined by SDS-PAGE.

Endotoxin:

Please contact us for more information.

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Met

Molecular Mass:

The recombinant mouse C5a consists of 78 amino acids and predicts a molecular mass of 9 kDa.

Formulation:

Lyophilized from sterile PBS, pH 7.4.

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

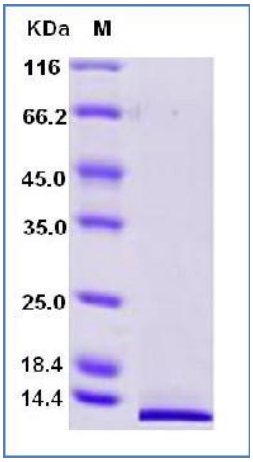
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

C5a is a protein fragment released from complement component C5. This 74 amino acid peptide in humans is generated by the cleavage of C5a convertase on the C5 α-chain during the classical, alternative, and lectin pathways of complement activation. The structure of C5a includes a core region consisting of four, anti-parallel alpha-helices held together by three disulfide linkages and a structured C-terminal tail, and C5a is rapidly metabolised by carboxypeptidase B to a 73 amino acid low activity form, C5a des-Arg. C5a is an extremely potent proinflammatory mediator, as well as a potent chemotactic factor for neutrophils and other leukocytes. It causes histamine release, increases in vascular permeability, induces several cytokines production from leukocytes, enhances neutrophil-endothelial cell adhesion, and augments the humoral and cell-mediated immune response. C5a is quickly metabolised by carboxypeptidases, forming the less potent C5adesArg. Acting via a classical G protein-coupled receptor, CD88, C5a and C5adesArg exert a number of effects essential to the innate immune response, while their actions at the more recently discovered non-G protein-coupled receptor, C5L2 (or GPR77), remain unclear. The widespread expression of C5a receptors throughout the body allows C5a to elicit a broad range of effects. Thus, C5a has been found to be a significant pathogenic driver in a number of immuno-inflammatory diseases, making C5a inhibition an attractive therapeutic strategy. C5a is a strong chemoattractant and is involved in the recruitment of inflammatory cells such as neutrophils, eosinophils, monocytes, and T lymphocytes, in activation of phagocytic cells and release of granule-based enzymes and generation of oxidants, all of which may contribute to innate immune functions or tissue damage. Accordingly, the anaphylatoxin C5a is implicated in a variety of diseases such as rheumatoid arthritis, systemic lupus erythematosus, reperfusion injury, Alzheimer's disease, and sepsis.

References

1.Guo RF, *et al.*. (2005) Role of C5a in inflammatory responses. Annu Rev Immunol. 23: 821-52. 2.Guo RF, *et al.* (2006) C5a, a therapeutic target in sepsis. Recent Pat Antiinfect Drug Discov. 1(1): 57-65. 3.Manthey HD, *et al.* (2009) Complement component 5a (C5a). Int J Biochem Cell Biol. 41(11): 2114-7.